## TITLE 326 AI R POLLUTION CONTROL BOARD

## DRAFT RULE
## 00-171(APCB)

## DIGEST

Amends 326 IAC 8-1-4 to incorporate by reference federal capture efficiency test methods. Effective 30 days after filing with the secretary of state.

HISTORY

Findings and Determination of the Commissioner pursuant to IC 13-14-9-7 and Notice of First Hearing; August 1, 2000, Indiana Register (23 IR 2948).

## 326 IAC 8-1-4

SECTION 1. 326 IAC 8-1-4 IS AMENDED TO READ AS FOLLOWS:

**326 IAC 8-1-4 Testing procedures**

Authority: IC 13-14-8; IC 13-14-9-7
Affected: IC 13-15; IC 13-17

Sec. 4. (a) The following test methods and procedures shall be used to determine compliance of as-applied coatings with the limitations contained in this article:

(1) Sampling procedures shall follow the guidelines presented in the following:

(A) ASTM D3925, "Standard practice for sampling liquid paints and related pigment coatings"*.

(B) ASTM E300, "Standard practice for sampling industrial chemicals"*.

(2) Samples collected for analysis shall be one (1) liter taken into a one (1) liter container at a location and time such that the sample will be representative of the coating as applied. The container must be tightly sealed immediately after the sample is taken. Any solvent or other volatile organic material added after the sample is taken must be measured and accounted for in the calculations in subdivision (4). For multiple package coatings, separate samples of each component shall be obtained.

(3) The following applicable analytical methods shall be used to determine the composition of coatings as applied:

(A) Method 24 of 40 CFR 60, Appendix A**, shall be used to determine the volatile organic compound content in coatings. If it is demonstrated to the satisfaction of the commissioner that plant coating formulation data are equivalent to Method 24 results, formulation data may be used. Any determination approving the use of formulation data shall be submitted to the U.S. EPA as a SIP revision. In the event of any inconsistency between a Method 24 test and a facility's formulation data, the Method 24 test will govern.

(B) Method 24A of 40 CFR 60, Appendix A**, shall be used to determine the volatile organic compound content and density of rotogravure printing inks and related coatings. If it is demonstrated to the satisfaction of the commissioner that plant coating formulation data are equivalent to Method 24A results, formulation data may be used. Any determination approving the use of formulation data shall be submitted to the U.S.

EPA as a SIP revision. In the event of any inconsistency between a Method 24A test and a facility's formulation data, the Method 24A test will govern.

(C) The following ASTM methods are the analytical procedures for determining certain factors related to coatings:

(i) ASTM D1475-60, "Standard test method for density of paint, varnish, lacquer, and related products"*.

(ii) ASTM D2369-87, "Standard test method for volatile content of a coating"*.

(iii) ASTM D3792-86, "Standard test method for water content of water-reducible paints by direct injection into a gas chromatograph"*.

(iv) ASTM D4017-81, "Standard test method for water content in paints and paint materials by the Karl Fischer method"*.

(v) ASTM D4457-85, "Standard test method for determination of dichloromethane and 1, 1, 1, trichloroethane in paints and coatings by direct injection into a gas chromatograph"*. This method may be used to develop protocols for any compound specifically exempted from the definition of volatile organic compound.

(vi) ASTM D2697-86, "Standard test method for volume nonvolatile matter in clear or pigmented coatings"*.

(vii) ASTM D3980, "Standard practice for interlaboratory testing of paint and related materials"*.

(viii) ASTM E180-85, "Practice for determining the precision data of ASTM methods for analysis of and testing of industrial chemicals"*.

(ix) ASTM D2372-85, "Standard method of separation of vehicle from solvent-reducible paints"*.

(D) The commissioner may determine that the analytical methods specified in clauses (A) through (C) are not appropriate to determine compliance and may either specify or allow an alternate test method. Such alternate test method shall be submitted to the U.S. EPA as a SIP revision.

(4) Calculations for determining the volatile organic compound content, water content, and the content of any compounds which are specifically exempted from the definition of volatile organic compound of coatings, inks, and fountain solutions as applied shall follow the guidance provided in the following documents:

(A) EPA 340/1-86-016, "A Guide for Surface Coating Calculation"***.

(B) EPA 450/3-84-019, "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings", revised June 1986***.

(C) EPA 340/1-88-004, "A Guideline for Graphic Arts Calculations", June 1988***.

(b) The protocol for determining the transfer efficiency of coating applicators at topcoat coating operations at an automobile assembly facility shall follow the procedure in EPA 450/3-88-018, "Protocol for Determining the Daily VOC Emission Rate of Automobile and Light Duty Truck Topcoat Operations", December 1988***.

**(c) The following test methods, as appropriate, shall be used by emission sources required to determine capture efficiency:**

**(1) Test methods in 40 CFR 51, Appendix M**, as follows:**

**(A) Method 204, Criteria for and Verification of a Permanent or Temporary Total Enclosure.**

**(B) Method 204A, Volatile Organic Compounds Content in Liquid Input Stream.**

**(C) Method 204B, Volatile Organic Compounds Emissions in Captured Stream.**

**(D) Method 204C, Volatile Organic Compounds Emissions in Captured Stream (Dilution Technique).**

**(E) Method 204D, Volatile Organic Compounds Emissions in Uncaptured Stream from Temporary Total Enclosure.**

**(F) Method 204E, Volatile Organic Compounds Emissions in Uncaptured Stream from Building**

**Enclosure.**

**(G) Method 204F, Volatile Organic Compounds Content in Liquid Input Stream (Distillation Approach).**

**(2) Alternative capture efficiency protocols and test methods may be used that satisfy criteria of either the data quality objective approach or the lower confidence limit approach as listed in 40 CFR 63, Subpart KK, Appendix A**.**

~~(c)~~ **(d)** Control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase volatile organic material concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified in subsection ~~(e)~~ **(f).**

~~(d)~~ **(e)** The overall efficiency of the emission control system shall be determined as the product of each individual capture system efficiency and each control device efficiency or by the liquid/liquid test protocol for each solvent recovery system. In those cases in which the overall efficiency is being determined for an entire line, the capture efficiency represents the total capture efficiency over the entire line.

~~(e)~~ **(f)** Determination of control efficiency shall be made using the following methods in 40 CFR 60, Appendix A**:

(1) Method 18, 25, or 25A, as appropriate to the conditions at the site, shall be used to determine volatile organic compound concentration. Method selection shall be based on consideration of the diversity of organic species present, their total concentration, and on consideration of the potential presence of interfering gases. Except as indicated in the following, the test shall consist of three (3) separate runs, each lasting a minimum of sixty (60) minutes, unless the commissioner determines that process variables dictate shorter sampling times:

(A) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual adsorber vessels, the test shall consist of three (3) separate runs, each coinciding with one (1) or more complete sequences through the adsorption cycles of all the individual adsorber vessels.

(B) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three (3) separate runs. Each run shall coincide with one (1) or more complete adsorption cycles.

(2) Method 1 or 1A shall be used for sample and velocity traverses.

(3) Method 2, 2A, 2C, or 2D shall be used for velocity and volumetric flow rates.

(4) Method 3 shall be used for gas analysis.

(5) Method 4 shall be used for stack gas moisture.

(6) Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test run.

~~(f)~~ **(g)** The method for determining the emissions of gasoline from a vapor recovery system are delineated in 40 CFR Part 60, Subpart XXX, Section 60.503**. Guidance on conducting the test will be found in the following:

(1) EPA 340/1-80-012, "Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations"***.

(2) EPA 450/2-77-026, "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals"***.

~~(g)~~ **(h)** The method for determining volatile organic compound emissions from organic solvent degreasing operations are delineated in EPA 905/2-78-001, "Regulatory Guidance for Control of Volatile Organic Compound Emissions from 15 Categories of Stationary Sources", Section XX.9404, pages 48 and 49***.

~~(h)~~ **(i)** The VOC emissions from sources engaged in synthesized pharmaceutical manufacturing (326 IAC 8-5-3), pneumatic rubber tire manufacturing (326 IAC 8-5-4), and graphic arts system (326 IAC 8-5-5) shall be determined using the Method 25 contained in 40 CFR Part 60, Appendix A**.

~~(i)~~ **(j)** Compliance with the gap requirement for external floating roof tanks shall be determined using the test procedure specified in the U.S. EPA guideline document EPA 450/2-78-047, "Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks"***.

~~(j)~~ **(k)** The volume percent solids of a coating shall be calculated using either EPA 450/3-84-019*, "Procedures for Certifying Quantity of VOC's Emitted by Paint, Ink, and Other Coatings", December 1984*** and no later amendments or using some other equivalent method. Such equivalent method shall be submitted to U.S. EPA as a SIP revision.

~~(k)~~ **(l)** An owner or operator of a source must be able to document that the coating manufacturer used either ASTM D2369-87* or other equivalent method to determine the volatile content of the coatings supplied and must also be able to document that the coating manufacturer used EPA 450/3-84-019*** or other equivalent method to calculate the volume percent solids content of the coatings. Such equivalent method shall be submitted to the U.S. EPA as a SIP revision.

~~(l)~~ **(m)** The commissioner or U.S. EPA may verify any test results submitted by a source. In the event of any inconsistency between test results, the commissioner's or U.S. EPA's test results will take precedence over results submitted by the source.

*These documents have been incorporated by reference and are available at ~~(1)~~ the American Society for Testing and Materials **(ASTM)**, ~~1916 Race Street, Philadelphia, Pennsylvania 19103 (Phone: 215/299-5462)~~ **100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959 (610) 832-9585** or ~~(2)~~ the Indiana Department of Environmental Management, Office of Air Management.

**These documents have been incorporated by reference and are available at ~~(1)~~ the Government Printing Office, Washington, D.C. 20402 or ~~(2)~~ **are available for copying from** the Indiana Department of Environmental Management, Office of Air Management, **100 North Senate Avenue, Indianapolis, Indiana 46204-2220.**

***These **EPA guidance** documents have been incorporated by reference and are available at ~~(1)~~ the Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711 (919/541-2777) or ~~(2)~~ **are available for copying at** the Indiana Department of Environmental Management, Office of Air Management. *(Air Pollution Control Board; 326 IAC 8-1-4; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2529; filed Sep 23, 1988, 11:59 a.m.: 12 IR 257; filed May 19, 1990, 5:00 p.m.: 13 IR 1847; filed May 6, 1991, 4:45 p.m.: 14 IR 1714)*